

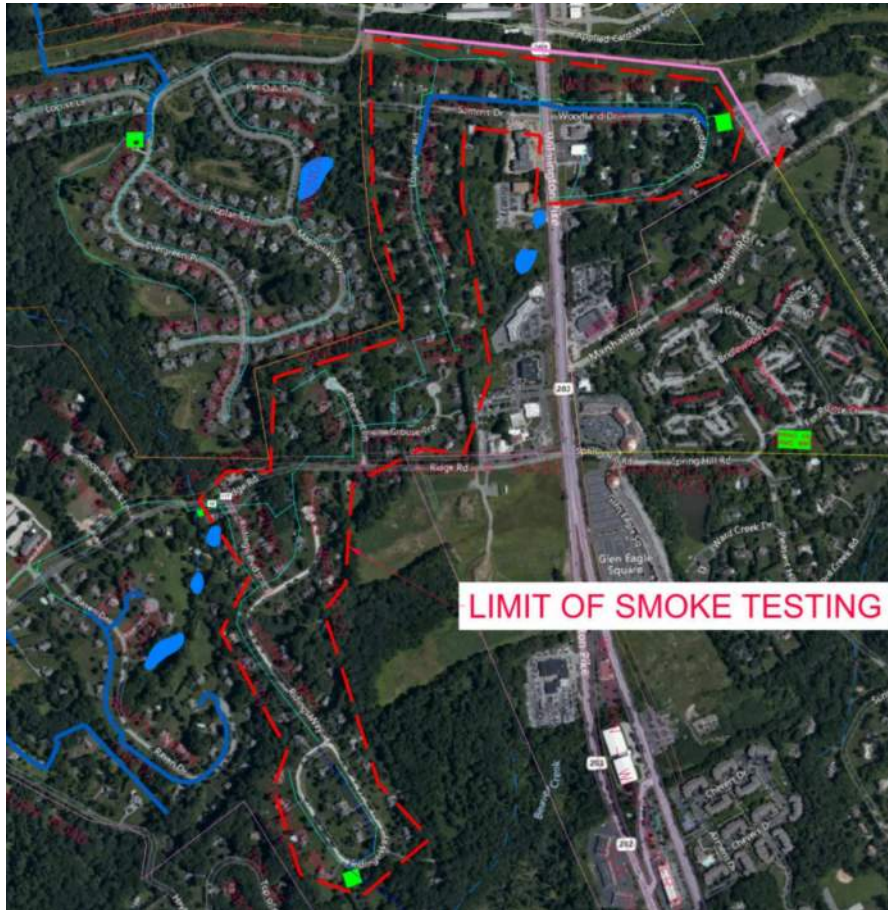


# CHADDS FORD TOWNSHIP SEWER AUTHORITY SMOKE TESTING - RIDINGS SERVICE AREA

# INTRODUCTION

- ♦ Chadds Ford Township Sewer Authority is in the process of completing overall sewer system upgrades to improve efficiencies and performance for the residents:
  - ❖ System is being reconfigured: Ridings WWTP to be decommissioned, converted to a pumping station. Turners Mill WWTP to be expanded.
  - ❖ Authority is spending more than \$2M to improve and modernize the sewer system
- ♦ Why smoke testing in the Ridings Service area?
  - ❖ I&I (infiltration and Inflow) adds unwanted flows to the sewer system. Increased non-sewer flows use up allocated capacity, increase operating costs and potential for environmental incidents
  - ❖ Ridings is the oldest collection system and exhibits issues during storm events
  - ❖ Flows from the decommissioned Ridings WWTP will be transferred to the Turners Mill WWTP

# LIMITS OF SMOKE TESTING – RIDINGS WWTP SEWER SYSTEM



- ◆ Recent major flow issues at the Ridings Wastewater Treatment Plant (WWTP)
- ◆ Authority has conducted sanitary sewer evaluation
  - ❖ A program is underway to rehabilitate Authority owned sewer mains and manholes where I&I issues have been identified.
- ◆ Flows issues are associated with infiltration and inflow (I&I)
  - ❖ I&I occurs when unsolicited groundwater seeps into sanitary sewer pipes through cracks, leaky joints, illicit connections (downspouts, sump pumps, HVAC condensate lines), etc.
- ◆ Next phase in the evaluation is smoke testing
- ◆ The smoke testing is limited to the Ridings Wastewater Treatment Plant Service Area (see map)
- ◆ The Authority has contracted with Flow Assessment Services, LLC to Smoke Test the system



# SMOKE TESTING

- ♦ Smoke testing is a cost-effective tool for identifying illicit public sanitary sewer connections and sewer issues
- ♦ Illicit sewer connections can add millions of gallons per day due to inflow and infiltration (I&I)
  - ❖ Additional I&I flow = additional costs to treat and operate
- ♦ Smoke used for testing is **safe, nontoxic mineral oil**.
  - ❖ Smoke is not the product of combustion and is similar to products used at concerts and theater venues during live performances
  - ❖ Smoke is not harmful to humans or pets and does not create a fire hazard
- ♦ Smoke exits the sewer system at illicit connections or locations where the system is defective
- ♦ Smoke testing equipment is placed on sewer manholes per the photo shown
  - ❖ Smoke testing vehicles will be clearly marked
- ♦ Examples of illicit connections are shown on the next slide



Smoke Test Blower



Smoke Test Vehicle

# EXAMPLES OF ILLICIT SEWER CONNECTIONS



Connected Roof Lateral



Storm Drain Connected



Open Lateral Clean-Out

# HOW DOES THIS AFFECT YOU

- ♦ Each resident will be notified prior to the smoke test commencing
  - ❖ Best practice is to keep all plumbing fixture drains filled with water. Run water in the fixtures the day before the scheduled test
- ♦ If you do not have an illicit connection on your property, your property will be unaffected
- ♦ If you do see smoke in your house, please notify the testing crew
  - ❖ They will be dressed in uniforms and near big red vans
- ♦ If you contact the crew, they will determine how smoke entered and will recommend ways to solve the issues. Common issues are leaks coming from a dry trap, which would allow sewer gas into the home
- ♦ The smoke alarms will activate if smoke enters a home through an improper connection
- ♦ This will help ensure future safety of your home by identifying needed repairs
  - ❖ The smoke testing is providing a service to the community



# WHAT ARE THE NEXT STEPS

- ♦ Resident Notices – October 4
- ♦ Smoke Testing – October 5 – 7 (weather permitting)
  - ❖ Completion of testing during dry weather will provide optimal results. Fall months are typically when the groundwater levels are lowest and conditions are driest
- ♦ A final report of findings will be issued to the Sewer Authority following the field work
- ♦ The Authority will identify areas in need of repair (if necessary) within the sewer collection system
- ♦ The Authority will develop a program to make the necessary repairs to Authority owned facilities
- ♦ If issues are identified on a private property, the homeowner will be notified with instructions for repair requirements



# Questions